Claims

[c1] What is claimed is:

1. A method for accessing data by controlling an electro-optical system, the method comprising:

determining if a difference between a rotational speed of a motor of the electro-optical system and a predetermined rotational speed is larger than a tolerant value when a pickup head of the electro-optical system slides toward a first direction and the rotational speed of the motor changes;

sliding the pickup head for a recovery distance opposite the first direction if the difference value is larger than the tolerant value; and

repeating the steps of sliding the pickup head toward the first direction, determining if the difference between the rotational speed of the motor and the predetermined rotational speed is larger than the tolerant value, and sliding the pickup head opposite the first direction when the difference value remains larger than the tolerant value until the difference value is less than the tolerant value.

[c2] 2. The method of claim 1 wherein the optical disc records data and is divided into a plurality of tracks

along the direction of a sliding track, and the recovery distance is the distance from a first track to a nearest other track.

[c3] 3. The method of claim 1 wherein the optical disc has a data track for recording data along discontinuous spreading recording marks, and a wobble track for recording wobble data along a continuous spreading pre-groove of the data track, and the electro-optical system records data onto the optical disc according to a reading clock, the method further comprising:
constantly sliding the pickup head toward the first direction if the difference value is less than the tolerant value after executing the comparison step; and
adjusting a frequency of the reading clock according to the wobble data so as to synchronize the reading clock with the wobble data.

[c4] 4. The method of claim 1 wherein the optical disc is divided into a plurality of data recording tracks along the sliding track, each track corresponding to an access rotational speed, and the pickup head is moved from a first position to a different second position toward the first direction, and the rotational speed of the motor changes from an access rotational speed corresponding to the first position to an access rotational speed corresponding to the second position when the pickup head slides

toward the first direction and the rotational speed of the motor changes.

[c5] 5. The method of claim 1 wherein the determining step is executed while the rotational speed of the motor is changing after the pickup head has slid toward the first direction from a first position for a predetermined time period.

[c6] 6. A method for accessing data by controlling an electro-optical system operating with constant linear velocity, the method comprising:
comparing a rotational speed of a motor of the electro-optical system with a predetermined rotational speed to determine if a difference value between the rotational speed of the motor and the predetermined rotational speed is larger than a tolerant value when a pickup head of the electro-optical system slides toward a first direction and the rotational speed of the motor changes;
sliding the pickup head for a recovery distance opposite the first direction if the difference value is larger than the tolerant value;
repeating the steps of sliding the pickup head toward the first direction, comparing the rotational speed of the motor with the predetermined rotational speed, and sliding the pickup head opposite the first direction when the difference value remains larger than the tolerant value

until the difference value is less than the tolerant value; and

adjusting a frequency of a reading clock of the electro-optical system to synchronize the reading clock with wobble data.

[c7] 7. The method of claim 6 wherein the optical disc records data and is divided into a plurality of tracks along the direction of the sliding track, and the recovery distance is the distance from a first track to a nearest other track.

[c8] 8. The method of claim 6 wherein the optical disc has a data track for recording data along discontinuous spreading recording marks, and a wobble track for recording wobble data along a continuous spreading pre-groove of the data track, and the electro-optical system records data onto the optical disc according to the reading clock, wherein the frequency of the reading clock is adjusted according to the wobble data.

[c9] 9. The method of claim 6 wherein the optical disc is divided into a plurality of data recording tracks along the sliding track, each track corresponding to an access rotational speed, the pickup head is moved from a first position to a different second position toward the first direction, and the rotational speed of the motor changes

from an access rotational speed corresponding to the first position to an access rotational speed corresponding to the second position when the pickup head slides toward the first direction and the rotational speed of the motor changes.

[c10] 10. The method of claim 6 wherein the comparison step is executed while the rotational speed of the motor is changing after the pickup head has slid toward the first direction from a first position for a predetermined time period.

[c11] 11. A control circuit for accessing data by controlling an electro-optical system, the control circuit comprising:
a motor for driving an optical disc; and
a pickup head linearly moveable along a sliding track fixed to the electro-optical system for accessing data on the optical disc
wherein the control circuit executes a comparison step to determine if a difference value between a rotational speed of the motor and a predetermined rotational speed is larger than a tolerant value when the rotational speed of the motor changes and the pickup head slides toward a first direction, and the control circuit slides the pickup head opposite the first direction for a recovery distance if the difference value is larger than the tolerant value, and then slides the pickup head toward the first

direction repeatedly until the difference value is less than the tolerant value.

[c12] 12. The control circuit of claim 11 wherein the optical disc records data and is divided into a plurality of tracks along the direction of the sliding track, and the recovery distance is the distance from a first track to a nearest other track.

[c13] 13. The control circuit of claim 11 wherein the optical disc has a data track for recording data along discontinuous spreading recording marks, and a wobble track for recording wobble data along a continuous spreading pre-groove of the data track, and the electro-optical system records data onto the optical disc according to a reading clock, wherein if the difference value is less than the tolerant value after the control circuit executes the comparison step, the control circuit constantly slides the pickup head toward the first direction and starts to adjust a frequency of the reading clock according to the wobble data so as to synchronize the reading clock with the wobble data.

[c14] 14. The control circuit of claim 11 wherein the optical disc is divided into a plurality of data recording tracks along the sliding track, each track corresponding to an access rotational speed, the pickup head is moved from

a first position to a different second position toward the first direction, and the rotational speed of the motor changes from an access rotational speed corresponding to the first position to an access rotational speed corresponding to the second position when the rotational speed of the motor is changing and the pickup head slides toward the first direction.

[c15] 15. The control circuit of claim 14 wherein the pickup head accesses the data on a track when the pickup head is moved along the sliding track to a position corresponding to the track, and the difference value between the rotational speed of the motor and an access rotational speed corresponding to the track is less than the tolerant value.

[c16] 16. The control circuit of claim 11 wherein the control circuit executes the comparison step while the rotational speed of the motor is changing after the pickup head has slid toward the first direction from a first position for a predetermined time period.